



# SUMMARY OF 2015 UB NATIONAL SUMMER TRANSPORTATION INSTITUTE

July 6 – 10, 2015

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# Closing Remarks



Associate Dean for Faculty Affairs, School of  
Engineering and Applied Sciences,  
SUNY Distinguished Professor, Department of  
Industrial & Systems Engineering



**University at Buffalo**

*The State University of New York*

# Summary of NSTI Program Curriculum

1 University Tour	
6 Lectures (1 hr each)	Career Opportunities in Transportation
	Highway Transportation
	Hazmat Transportation and Safety
	Role of Policy Makers in Pursuit of Good Traffic Management
	Introduction to Aerospace Engineering
	Transportation Practice in NY State
5 Projects with lectures (0.5 hr – 3 hr each)	Travel Demand Analysis
	Traffic Data Collection and Signal Optimization
	Driving Simulator Programming
	Basswood Bridge Design
	Bridge Design with Software
3 Field trips (3.5 hr each), 4 hosts	The Railroad Museum
	Traffic operation center at Niagara International Transportation Technology Coalition (NITTEC)
	Erie canal cruise at Lockport
	Field Tour of Buffalo Niagara International Airport
3 Enhancement activities (1.5 hr each)	Team Building
	College Preparation and Admission Process
	PowerPoint Presentation Preparation
Bus onboard activities	Quizzes





# University Campus Tour (Mon)



# Academic: Lectures

## • Career Opportunities in Transportation (Mon)

**Athena Hutchins**

Executive Director

Niagara International

Transportation Technology

Coalition (NITTEC)

- Discuss various opportunities within the transportation career, including government, industry and academia.
- How to become an engineer
- What is Professional Engineer (PE)



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# Academic

- Transportation Policy Maker's Challenge (Wed)

**Zhenhua Zhang**

PhD Candidate

Civil, Structural and Environmental  
Engineering, UB

- How to solve traffic congestion problems essentially.
- Raised an example in Guangzhou, China.
- Discussed different solutions





# Academic: Lectures

- Safety in Hazmat Transportation (Wed)

**Tolou Esfandeh**

PhD Candidate

Industrial & Systems Engineering, UB

- Introduce what are the hazardous materials.
- Learn the current status of hazmat transportation, and how transportation engineers can help reduce risk
- Quiz: How to select route for hazmat transportation in Buffalo



# Academic: Lectures

- Introduction to Aerospace Engineering (Thu)

Jon Yoo

Assistant Professor in the Department of  
Mechanical and Aerospace Engineering at the  
University at Buffalo

- Understand what is aerospace engineering.
- History of aerospace engineering
- State-of-art aerospace engineering





# Academic: Lectures

- Transportation Practice in NY State (Thu)

**Susan Surdej**

Assistant to the Regional Director  
Regional Public Information Officer  
NYS Department of Transportation -  
Region 5

- Introduce mission, current transportation practice and future development of NYS Department of Transportation
- Lots of project pictures in incident management, winter operations, etc.



# Academic: Lectures and Projects

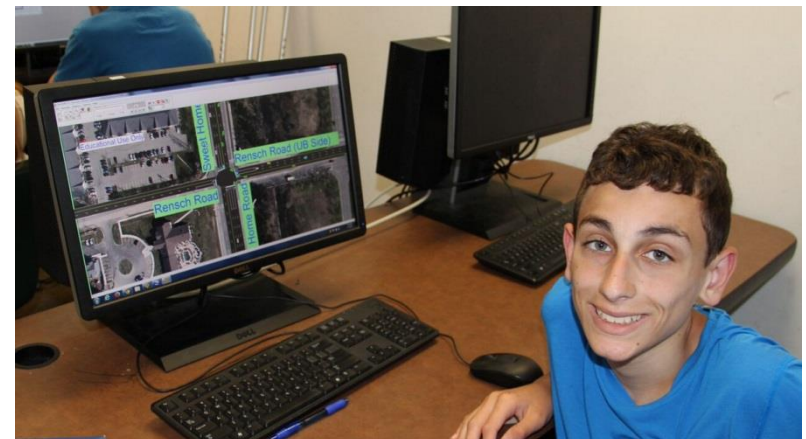
- Highway Transportation (Tue)
  - Project: Traffic Simulation and Signal Optimization

**Andrew Bartlett**

PhD Candidate

Civil, Structural and Environmental Engineering, UB

- Collect real-world traffic volume data at an intersection on campus
- Design and optimize traffic signal plans by SYHCRON



# Academic: Project

- Project: Basswood Bridge Build (Wed-Friday)

**Julie Fetzner, Hernan Caceres  
and Coletha Mulima**

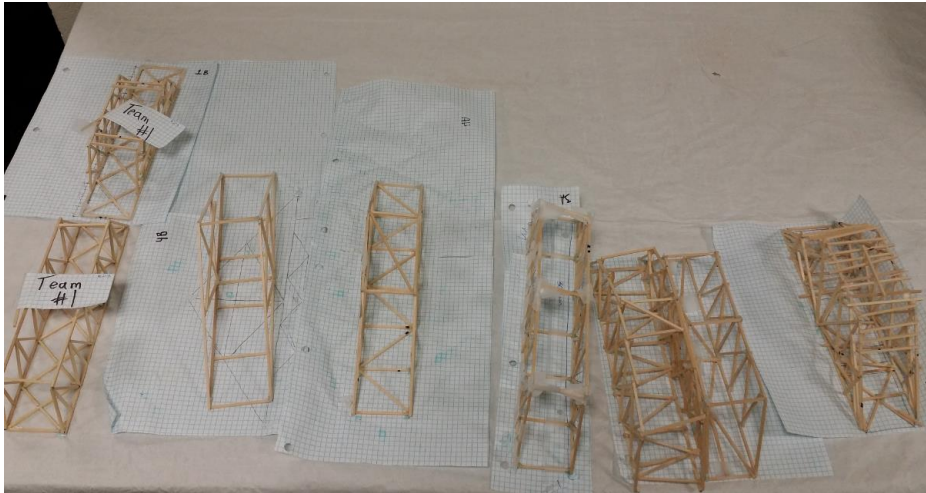
Civil, Structural and  
Environmental Engineering, and  
Industrial and Systems  
Engineering, UB

- Build your own bridge with paper, basswood, scissors and glue.
- It took three days to finish the project. Wed- design, Thu- build, Friday- Test





# Basswood Bridge Build



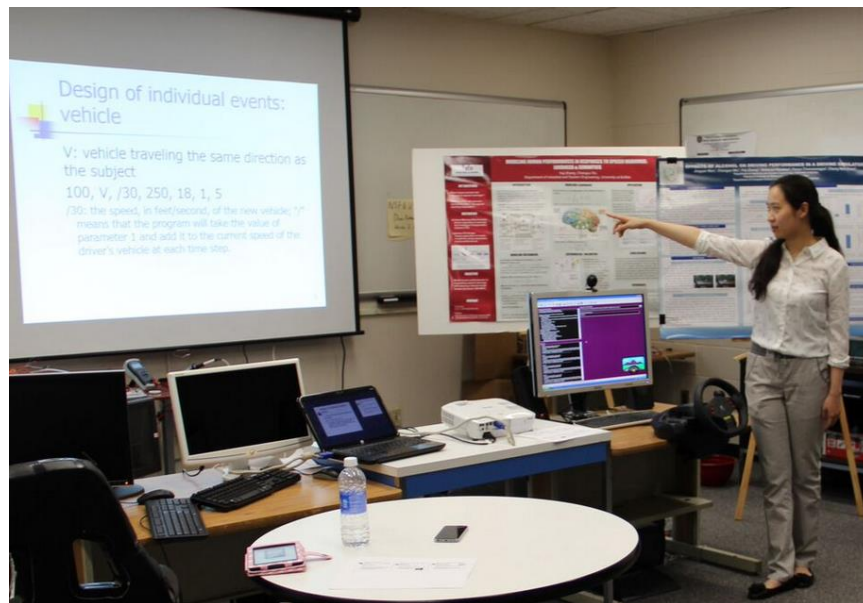


# Academic: Projects

- Driving Simulator (Wed)

**Jingyan Wan**  
PhD Candidate  
Industrial & Systems  
Engineering, UB

- Learn how researchers use driving simulation laboratories to safely conduct human factors research,
- Develop and test “driving” scenarios using UB’s state-of-the-art driving simulator.



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# Academic: Lectures and Projects

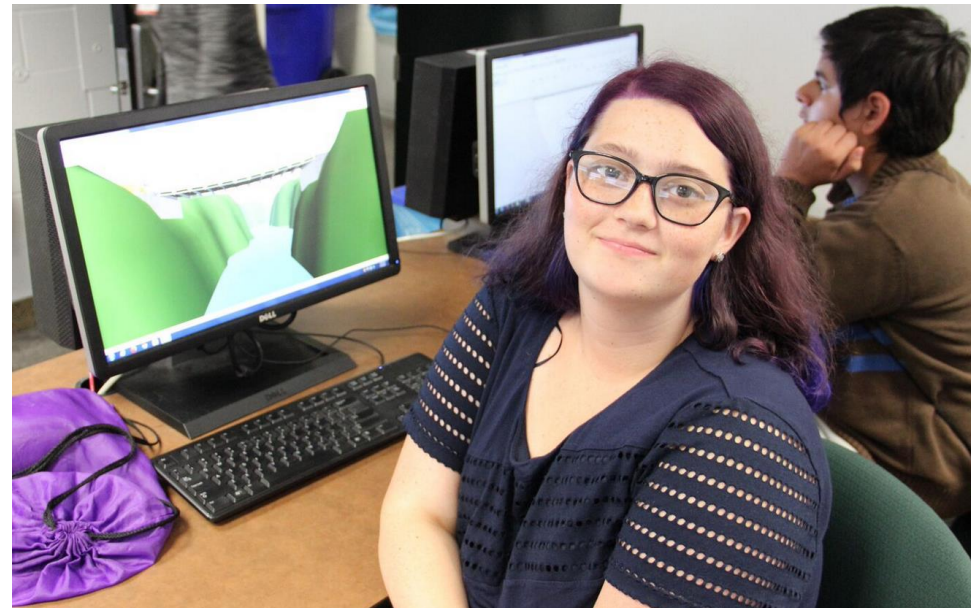
- Construction and Transportation Infrastructure (Thu)
  - Project: Bridge Design

## Mettupalayam V. Sivaselvan

Assistant Professor

Department of Civil, Structural and Environmental Engineering, UB

- Introduce basic knowledge of building a bridge
- Design your own bridge with lowest costs



# Add-on show: CNG Car

- Mike Fondacara, NYSDOT





# Field Trips

- Trip 1: Land transportation (Tue):
  - 1.1 The Railroad Museum





# Field Trips

- Trip 1: Land transportation (Tue):
  - 1.2. Traffic operation center at Niagara International Transportation Technology Coalition (NITTEC)



# Field Trips

- Trip 2: Water transportation (Wed):
  - Erie canal at Lockport
  - “Locking through” and being raised the 49 ft. elevation

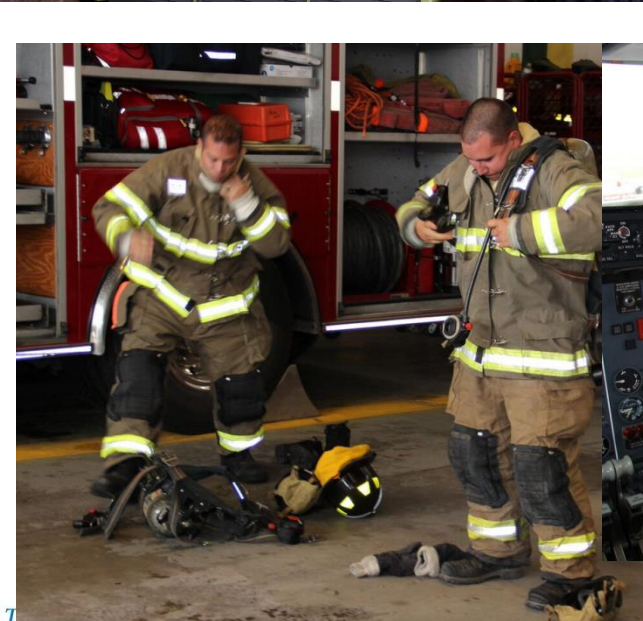




# Field Trips

- Trip 3: Air transportation (Thu)
  - Buffalo Niagara Airport Tour

**Steve**, Airfield Supervisor



# Enhancement

- Team Building (Fri)



**Jude Butch & Terri Budek**  
Leadership Programming  
Coordinator  
Center for Student Leadership  
& Community Engagement





# Enhancement

- College Preparation and Admission Process (Fri)

**Amanda Casali**

Admissions Advisor

Office of Admissions, UB



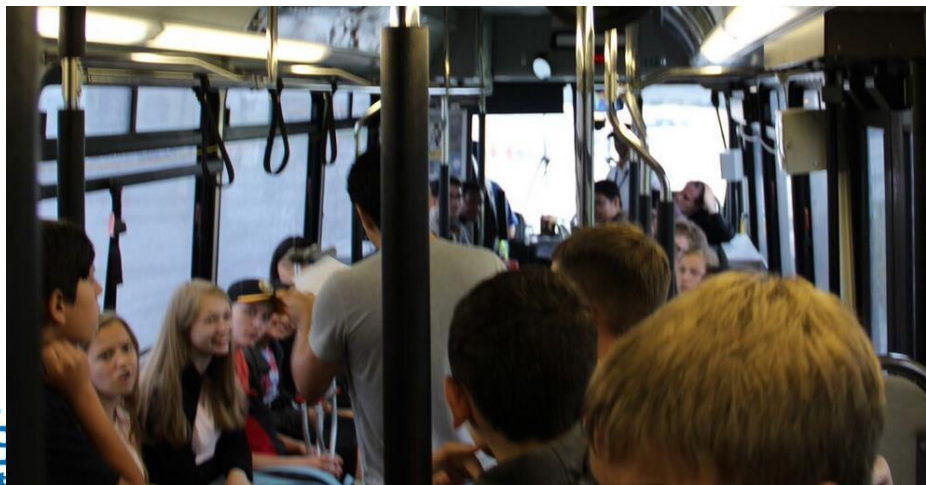
# Enhancement

- Computer lab and PowerPoint Presentation Preparation (Fri)

**Julie, Hernan and Coletha**  
NSTI Staff



# Bus Q/A Activities



# Student Presentation

NO	First name	Last Name
1	Adam	Brzozowiec
2	Ronald	Brooks Jr
3	Gabrielle	Catlin
4	Nykolus	Charter
5	Basil	Christakis
6	Russell	Diliberto
7	Thomas	Efthemis
8	Olivia	Garcia
9	Zachary	Gelfond
10	Arshpreet	Grewal
11	Samuel	Krebs
12	Jin	Lee
13	Larry	Livingston Jr

14	Jacob	Loomis
15	Zachary	Meal
16	Brandon	Meek
17	Samantha	Moore
18	Christian	Palladino
19	Cecilia	Rapp
20	James	Rico
21	Elizabeth	Seward
22	Maximus	Singh-Lakhman
23	Sophia	Wang
24	Cameron	Wilson
25	Alex	Wozniak



# Group Competition in NSTI

- Four projects (each 10 points)
- One lecture quiz (4 points)
- Three field trips (each 4 points)



# The Winner Team is ...

- Group 2

Adam	Brzozowiec	Lake Shore
Zachary	Gelfond	Transit Middle
Arshpreet	Grewal	Niagara-Wheatfield
Zachary	Meal	Starpoint
Christian	Palladino	Williamsville South



# Thanks to Julie. Hernan and Coletha!







# Have a nice Summer!

See you soon at UB!



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